

# Enameling Supplies

Edgar Refskegg

April 27, 2019

Contents

Background & Commentary 3

List of Supplies 3

    Design & Resist . . . . . 3

    Etching . . . . . 3

    Enameling . . . . . 4

    Sanding and Polishing . . . . . 4

    Shop Tools and Supplies . . . . . 4

Where to Obtain Supplies 5

References 6



## Background & Commentary

There are many supplies and tools that are important to creating good enamel pieces. I will list many of the supplies here that I use for my enamels, but keep in mind that not all of these will be useful for everyone. I think that what works for me will not necessarily work for others. Further, there are typically several different ways to accomplish the same thing.

The way this list is organized is by the items used from beginning to end. I may change this at some point but at first thought it seems like this way it'll be easier to visualize why the tools are needed and when they might be useful, rather than having a giant list.

Lastly, for the most part I will keep the explanations for the supplies here pretty limited. My intent is that this is simply a list of items, and their respective uses can be located elsewhere in my procedure documents.

## List of Supplies

### Design & Resist

- Drawing Software
  - We use Illustrator mostly, but anything else is fine
- Laser Printer
  - I use a Brother brand printer
- Press-n-Peel transfer paper
  - [techniks.com](http://techniks.com)
- Blue Painter's Tape
- Heat Transfer Press
  - Typically used for T-shirts
  - a clothes iron also works
- Testor's Enamel Paint
  - anything but Metallic
- Paint brushes, scribes, etc.

### Etching

- Ferric Chloride
- Closed Foam Insulation Block
  - Basically - get something that floats and doesn't absorb liquid
- Plastic container (cut the foam/insulation so that it fits in these)
  - Chinese take out containers are great. Can also find on Amazon.
- Double-sided carpet tape
- 2" packing tape
- Sodium Carbonate (soda ash), or Sodium Bicarbonate
- Green scrub pads
  - useful for removing resist



- Penny Brite
  - clean the metal and degrease before enameling
- Toothbrushes

## Enameling

- Kiln
  - I use a Paragon XPRESS-Q-11A.
  - torch firing also works but it's inconsistent and hard to control the temp
- Mesh firing rack
- Kiln fork
- Kiln glasses
- Ceramic tiles
- Vitreous powder enamel (leaded or unleaded)
  - lump enamel is also fine
- Fine brushes
- Application/inlay tools
  - I use scribes, brushes, and a wooden dowel with a darning needle
- 2oz plastic condiment containers
- Water
- Klyr Fire
  - enamel adhesive
- Plastic squirt bottle

## Sanding and Polishing

- Sodium Bisulfate (pickle)
  - 10oz solid with 1qt water
  - used to remove fire scale and other oxidation
- 150 grit alundum stone
- 220 grit alundum stone
- 400+ sandpaper
  - I go up to 1000 grit. Higher is fine
- Spray high gloss polyurethane
  - Finish the enamels and make them shiny

## Shop Tools and Supplies

Note: These are not all entirely necessary for just enameling.

- Dapping block
- Rubber or Nylon mallet
- Jeweler's Saw and blades
- Drill



- Riveting hammer, chasing hammer
- Metal
  - Copper, brass, nickel silver, etc.
- Chasing / Repousse tools
- Torch (Acetylene-Air)
- Flex Shaft
- Pitch bowl w/ pitch

## Where to Obtain Supplies

General purchasing information. There are several different online vendors that are useful for enameling, so cataloging them all in one place is helpful for parsing through.

- [riogrande.com](http://riogrande.com)
  - copper metal (18ga max)
  - jewelry creation materials (saw, birds beak, etc.)
- [contenti.com](http://contenti.com)
  - pitch bowl and gravers (for engraving)
  - dapping block (doming medallions)
- [thompsonenamel.com](http://thompsonenamel.com)
  - general enameling supplies
  - some metal (riogrande seems to be better)
  - enamel tools (glass brush, kiln fork, etc.)
  - metal foil
- [e-namels.com](http://e-namels.com)
  - large amount of leaded and lead-free enamels from various manufacturers
- [paragonweb.com](http://paragonweb.com)
  - kiln
  - kiln stuff
- [amazon.com](http://amazon.com)
  - ferric chloride
  - general supplies
- [https://closeoutjewelryfindings.com/index.php?l=product\\_detail&p=1970](https://closeoutjewelryfindings.com/index.php?l=product_detail&p=1970)
  - copper chains for creating necklaces
- [https://closeoutjewelryfindings.com/index.php?l=product\\_detail&p=947](https://closeoutjewelryfindings.com/index.php?l=product_detail&p=947)
  - steel rope chain, 250ft.
- <https://www.fusionbeads.com/Base-Metal-Bar-Pin-Silver?size=63>
  - pin backs to make pins
- <https://www.fusionbeads.com/round-artistic-wire?gauge=7>
  - wire to create pins
  - 10 or 12 gauge



## References

Hawthorne, J.G., and C.S. Smith. *On Divers Arts: The Foremost Medieval Treatise on Painting, Glassmaking, and Metalwork*. Dover Art Instruction. Dover Publications, 1979. <https://books.google.com/books?id=MMiLTJqvYnYC>.

O'Neill, J.P., Musée du Louvre, and N.Y. Metropolitan Museum of Art New York. *Enamels of Limoges: 1100-1350*. Metropolitan Museum of Art, 1996. <https://books.google.com/books?id=i4okAQAAIAAJ>.

Wardropper, I., and J.B. Day. *Limoges Enamels at the Frick Collection*. Frick Collection, 2015. <https://books.google.com/books?id=3LcNrgEACAAJ>.

